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October 18, 2005

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To: Commissioner for Patents
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From: David E. Jefferies

Re: Appeal Brief
Application No. 10/687,888
Daniel Keith Amonett et al.
Filed October 17, 2003
TIMER
Our File: KPF-30CD1

Pages: 26 (including cover sheet)

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PATENT
ATTY. DOCKET NO. KPF/30CD1IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte Amonett et al.

Appeal No. _____

Serial No.: 10/687,888
Filed: October 17, 2003
Group Art Unit: 2832
Examiner: Karl I. Tamai
Appellants: Amonett et al.
Title: TIMER

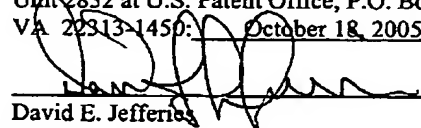
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APPEAL BRIEF

This brief is in furtherance of Appellants' Notice of Appeal filed September 6, 2005, appealing the decision of the Examiner dated May 26, 2005 finally rejecting claims 1-10. A copy of the claims appears in the Appendix to this brief.

I hereby certify that this correspondence is being sent via
facsimile [(571) 273-8300] to Examiner Karl I. Tamai in Art
Unit 2832 at U.S. Patent Office, P.O. Box 1450, Alexandria,
VA 22313-1450: October 18, 2005



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Real Party In Interest

The real party in interest in this appeal is France/Scott Fetzer Company, a(n) corporation of Delaware having a place of business at 2268 Fairview Boulevard West, Fairview, Tennessee 37062.

Related Appeals and Interferences

There are no appeals or interferences known to appellant, the appellant's legal representative, or assignee, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

Status of Claims

Claims 1-10 are pending and stand finally rejected under 35 U.S.C. § 103. Claims 1, 2, 9, and 10 are asserted to be unpatentable over U.S. Patent No. 4,426,158 (Müller) in view of U.S. Patent No. 5,210,722 (Schwartz). Claims 3-5 are asserted to be unpatentable over Müller and Schwartz in further view of U.S. Patent No. 3,215,964 (Horbach). And claims 6-8 are asserted to be unpatentable over Müller and Schwartz in further view of U.S. Patent No. 4,888,507 (Plancon). Appellants appeal the final rejection of claims 1-10.

Status of Amendments

There are no amendments pending.

Summary of Claimed Subject Matter

The claimed subject matter is directed to a timing motor and geartrain, with components of the geartrain (meshing gears and gearshafts) positioned on both sides of a stator plate of the timing motor. At least one gear and/or gearshaft comprises two

pieces adapted to engage one another to form a single connection of the geartrain through the stator plate.

More specifically, as shown in Figs. 2A through 2C (attached as Exhibit A), the timer 10 of the claimed invention includes a timing motor 12 and geartrain 14 to drive a main cam 38 of the timer 10. The timing motor 12 includes a stator plate 42. The stator plate 42 is formed from a flat steel stamping, and includes an orifice 46, the circumference of which is bounded by a plurality of stator poles 48. The timing motor 12 of the present invention also includes a rectangular bobbin coil 50 having square wire terminals 52 that plug into buss bars 53 in the timer 10. The stator plate 42 and bobbin coil 50 are located in the rear housing 36 of the timer 10 over molded plastic posts 54 (see Fig. 3, also attached in Exhibit A). A locating hole and plurality of details 56 are formed through the flat steel stamping of the stator plate 42. In assembling the stator plate 42 into the rear housing 36 of the timer 10, the molded plastic posts 54 (see Fig. 3) integral with the rear housing 36 are disposed through the locating hole and details 56 in the stator plate 42.

The geartrain 14 driven by the timing motor sub-assembly is split on both sides of the stator plate 42. As a result, all gear and pinion meshes are completed during sub-assembly operations and the only blind assembly is mating a splined shaft 74 on a third stage pinion 76 with a splined socket 78 on a third stage gear 80. The rotor pinion 62, first stage gear 64, a first stage pinion 82, a second stage gear 84, a second stage pinion 86 (shown in Fig. 2C) and the third stage gear 80 are located over molded posts 54 (see Fig. 3) or sockets (not shown) integral with the rear housing 36 of the timer 10. These components are assembled and the timing motor sub-assemblies positioned

over them and staked in place. The third stage pinion 76, a fourth stage gear 88, a fourth stage pinion 90, a fifth stage gear 92 and a fifth stage pinion 94 and the main cam 38 are assembled over molded posts or sockets (not shown) in the front housing 34 of the timer 10. The rear housing 36 is then inverted and snapped in place over the front housing 34, capturing the entire timing motor 12 and geartrain 14. During the final assembly operation, the splined shaft 74 on the third stage pinion 76 mates with a splined socket 78 on the third stage gear 80 completing the geartrain 14.

Thus, due to the claimed configuration of the present invention, the geartrain can be assembled in two halves, then easily joined by mating pinion 76 with socket 78 through an aperture in the stator plate 42, in a blind assembly operation. This eliminates the problems of prior geartrains, which had to be assembled as a complete unit.

Grounds of Rejection to be Reviewed on Appeal

Whether the subject matter of any of claims 1, 2, 9, and 10 is unpatentable under 35 U.S.C. § 103 over Müller in view of Schwartz:

Whether the subject matter of any of claims 3-5 is unpatentable under 35 U.S.C. § 103 over Müller and Schwartz in view of Horbach.

Whether the subject matter of any of claims 6-8 is unpatentable under 35 U.S.C. § 103 over Müller and Schwartz in view of Plancon.

Argument

1. Rejections of claims 1, 2, 9 and 10 over Müller in view of Schwartz

As noted above, the Examiner has finally rejected claims 1, 2, 9, and 10 under 35 U.S.C. § 103(a) as being unpatentable over Müller in further view of Schwartz. In making the rejections, the Examiner states that Müller teaches every aspect of the invention "except a single (one and only one) connection of a gear and/or gearshaft through the stator plate". (Office Action dated May 26, 2005, Page 3). However, the Examiner states that Schwartz teaches a single connection through the stator plate of geartrains above and below the stator plate to allow for space consolidation of the geartrains and allowing more space for a battery. Id. The Examiner therefore suggests that it would have been obvious to a person of ordinary skill in the art, at the time of the invention, to use the single connection of Schwartz in the motor of Müller to arrive at the claimed invention.

As an initial matter, Appellants agree with the Examiner that Müller does not disclose a two-piece single connection of a geartrain through a stator plate. As can be seen from Fig. 2B of Müller (attached as Exhibit B), the geartrain includes a wheel 46 including a spindle 44 that is disposed through a bore 40 in the stator 2. However, Müller also includes spindle 18 and wheel 20, which form a second connection through the stator plate. So, Examiner looks to Schwartz to provide a geartrain having only a single connection through the stator plate.

However, Appellants respectfully disagree with the Examiner' rejections for two reasons: (1) One skilled in the art would not be motivated to combine Müller and

Schwartz because to do so would require an unwarranted modification of Müller, and (2) even if one were to combine Müller and Schwartz (even though there is no motivation to do so), the combination still does not teach every limitation of independent claim 1, and thus its dependent claims, including dependent claims 2, 9, and 10.

a. One skilled in the Art would not be Motivated to Combine the Teachings of Müller and Schwartz

Appellants assert that one skilled in the art would not combine the configuration of the geartrain of Schwartz with the Müller apparatus.¹ If one were to add the geartrain of Schwartz to the apparatus of Müller, one of the purposes of Müller would be destroyed. At least column 2, lines 20-31, of Müller discusses that one purpose is to provide an analog display watch that includes simplified assembly in order to reduce the size of the watch. One of the manners in which this reduction in size is achieved in Müller is by providing a single plate (i.e., the stator plate) with the gears, support structure, and other components disposed through and around the plate. Multiple connections through the stator plate serve to reduce overall size by compacting the geartrain and other components in Müller. If one were to replace Müller's configuration with the configuration shown in Schwartz, one would have to expand the size of the watch in Müller in order to accommodate the now expanded size of the geartrain. This runs contrary to a purpose of Müller, and thus the combination of the disclosures of

¹Although Appellants herein discuss the combination of the geartrain of Schwartz with the apparatus of Müller, this should not be taken as an admission on the part of Appellants that Schwartz discloses a single connection of geartrain through a stator plate. Quite the contrary, and as will be set forth later in greater detail, Appellants specifically argue that Schwartz does not disclose a single connection of a geartrain through a stator plate.

Müller and Schwartz would make no sense, and there certainly would not be any motivation to make the combination.

b. Any Combination of Müller and Schwartz Fails to Teach All Limitations of Independent Claim 1, and thus the Dependent Claims

Further, regardless of whether one skilled in the art would be motivated to combine Müller and Schwartz (which Appellants submit one would not be), any such combination would fail to teach all limitations of claim 1 (and thus dependent claims 2-10). This is because Schwartz, like Müller, does not disclose a two-piece single connection of a geartrain through a stator plate.

Schwartz describes an analog timepiece. Referring to Fig. 1 of Schwartz (attached as Exhibit C), the components of the timepiece include a frame member 1 having a top central wall 2. Side walls 3 (depending from the top central wall) and a bridge member 5 define an inner cavity 4. This inner cavity includes a stepping motor 7 having a rotor 8 and a stator 9. The inner cavity also includes two geartrains: (1) A dial side geartrain and (2) a movement side geartrain. The dial side geartrain includes an hour wheel 16, a minute wheel reduction assembly 17, a center wheel 18, a pinion 20, and a plastic wheel member 21 (see column 3, lines 17-36). The movement side geartrain includes a third wheel assembly 19, a seconds wheel assembly 22, and an intermediate wheel assembly 23 (see column 3, lines 54-58).

The intermediate wheel assembly 23 is the only portion of either geartrain associated with the stator plate 9. However, as can be seen from Fig. 1, the intermediate wheel assembly 23 does not connect the dial side and movement side geartrains through the stator plate. Rather, it is simply journaled into the top central wall

2. In fact, according to the disclosure of Schwartz, it is clear that the connection of dial side geartrain and movement side geartrain does not occur through the stator plate. At column 3, lines 32-36, Schwartz states, "The third [wheel] assembly [19] is one element of a movement-side geartrain . . . and extends through the top central wall of the frame to couple the dial-side geartrain to said movement-side geartrain." Thus, the geartrain connection occurs at the third wheel assembly 19. As can be seen from Fig. 1, this connection occurs nowhere near the stator plate and certainly is not through the stator plate. Further, column 3, lines 59-60, of Schwartz states, "The movement-side geartrain drives the dial-side geartrain from the pinion 20 of the third wheel assembly." Again, referring to Fig. 1, this does not occur through the stator plate. And finally, column 4, lines 13-19 (referring to Fig. 2, also attached in Exhibit C) of Schwartz also make clear that the geartrain is not connected through the hole in the stator, but that intermediate wheel is merely journaled to top central wall: "It is particularly important to notice a hole 9d passing through the stator and serving to locate the stator on a peg which is integral with the frame and which defines a central bore 2a. Bore 2a serves to rotatably journal the non-magnetic intermediate wheel assembly 23 (see FIG. 1)." Thus, a peg of the frame is disposed through the hole 9d in the stator and the intermediate wheel assembly 23 is journaled in a bore of this portion of the frame. But there is no connection of a geartrain that occurs through the stator plate.

Thus, Schwartz does not form a "connection of said geartrain through said stator plate" as is recited by claim 1 of the present application. Rather, the connection occurs "around" the stator plate: rotor 8 drives intermediate wheel 23, which drives seconds wheel 22, which drives toothed wheel 21 of third wheel assembly 19, which drives

minutes wheel 17 and hour wheel 16. Thus, Appellants submit that no combination of Müller and Schwartz can show a two-piece single connection of a geartrain through a stator plate, as is recited in independent claim 1 of the present invention. Thus, Appellants further submit that claim 1 is not rendered obvious by Müller in view of Schwartz, and therefore respectfully request a reversal of the Examiner's rejection of claim 1 as obvious over Müller in view of Schwartz.

Appellants further submit that each of claims 2, 9, and 10 ultimately depend from claim 1. Since claim 1 is not rendered obvious by Müller in view of Schwartz, Appellants respectfully submit that neither are dependent claims 2, 9, and 10 rendered obvious by Müller in view of Schwartz, and respectfully request a reversal of the Examiner's rejection of claims 2, 9, and 10.

2. Rejections of Claims 3-5 over Müller and Schwartz in Further View of Horbach

As noted above, the Examiner has finally rejected claims 3-5 under 35 U.S.C. § 103(a) as being unpatentable over Müller and Schwartz in further view of Horbach.

In order to establish a prima facie case of obviousness, the Examiner must show that the cited references, as combined, teach or suggest each of the elements of the claims. Claims 3-5 each ultimately depend from independent claim 1, and thus incorporate the limitations of that claim. At least for the reasons discussed above, one skilled in the art would not be motivated to combine Müller and Schwartz, and, in any event, the combination of Müller and Schwartz does not teach or suggest each and every element of claim 1. Further, it is submitted that Horbach fails to teach the elements of claim 1 that are missing from Müller and Schwartz. More specifically,

Appellants submit that, like Müller and Schwartz, Horbach does not teach or suggest a geartrain including meshing gears and gearshafts on both opposite sides of the stator plate with "at least one gear and/or gearshaft comprising at least two pieces adapted to engage one another to form a single connection of said geartrain through said stator plate," as presently recited in claim 1. Rather, Horbach is directed to bobbins used in manufacturing electrical coils. Thus, regardless of whether one skilled in the art would be motivated to combine the teachings of the three references (Appellants submit that one would not), it is submitted that any combination of Müller, Schwartz, and Horbach does not show each and every element of claims 3-5, as those claims are ultimately dependent on claim 1. Accordingly, Appellants respectfully request a reversal of the Examiner's rejection of claims 3-5.

3. Rejections of Claims 6-8 over Müller and Schwartz in further view of Plancon

As noted above, the Examiner has finally rejected claims 6-8 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Müller and Schwartz in further view of Plancon.

In order to establish a prima facie case of obviousness, the Examiner must show that the cited references, as combined, teach or suggest each of the elements of the claims. Claims 6-8 each ultimately depend from independent claim 1, and thus incorporate the limitations of that claim. At least for the reasons discussed above, one skilled in the art would not be motivated to combine Müller and Schwartz, and, in any event, the combination of Müller and Schwartz does not teach or suggest each and every element of claim 1. Further, it is submitted that Plancon fails to teach the

elements of claim 1 that are missing from Müller and Schwartz. More specifically, Appellants submit that, like Müller and Schwartz, Plancon does not teach or suggest a geartrain including meshing gears and gearshafts on both opposite sides of the stator plate with "at least one gear and/or gearshaft comprising at least two pieces adapted to engage one another to form a single connection of said geartrain through said stator plate," as presently recited in claim 1. Rather, while Plancon discloses a stepping motor rotor assembly, it does not disclose a split geartrain engaged in a single connection through the stator plate. Thus, regardless of whether one skilled in the art would be motivated to combine the teachings of the three references (Appellants submit that one would not), it is submitted that any combination of Müller, Schwartz, and Plancon does not show each and every element of claims 6-8, as those claims are ultimately dependent on claim 1. Accordingly, Appellants respectfully request a reversal of the Examiner's rejection of claims 6-8.


Conclusion

Accordingly, Appellants submit that each of the Examiner's rejections is in error and a reversal of the rejections and allowance of the claims is therefore requested.

The Commissioner is hereby authorized to charge Deposit Account No. 23-3000 in the amount of \$500.00 for the fee due under 37 C.F.R. § 41.20(b)(2). It is believed that no additional fee is due. If, however, any additional fee or surcharges are deemed due, please charge same or credit any overpayment to Deposit Account No. 23-3000.

The Board is invited to contact the undersigned attorney with any questions or remaining issues.

Respectfully submitted,
Wood, Herron & Evans, L.L.P.

By 
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Claim Appendix

1. A timing motor and geartrain, comprising
 - a timing motor comprising a stator plate having first and second sides and a rotor mounted for rotation in the stator plate, and
 - a geartrain comprising meshing gears and gearshafts positioned on both opposite sides of the stator plate for providing a gear reduction of the rotation of the timing motor, at least one gear and/or gearshaft comprising at least two pieces adapted to engage one another to form a single connection of said geartrain through said stator plate.
2. The timing motor and geartrain of claim 1, wherein the stator plate further comprises an orifice having a circumference, said circumference being bounded by a plurality of stator poles.
3. The timing motor and geartrain of claim 1, wherein said timing motor is operatively connected to a timer including buss bars, said timing motor further comprising a bobbin coil having wire terminals adapted to be associated with buss bars in the timer.
4. The timing motor and geartrain of claim 3 wherein said bobbin coil is a rectangular bobbin coil and said wire terminals are square wire terminals.
5. The timing motor and geartrain of claim 3, wherein said bobbin coil is associated with said stator plate.

6. The timing motor and geartrain of claim 1, wherein said rotor further comprises a steel rotor post extending through the rotor in a direction substantially perpendicular to the plane of the stator plate.

7. The timing motor and geartrain of claim 6, wherein said rotor post has first and second ends, at least one of said first and second ends including a rotor pinion.

8. The timing motor and geartrain of claim 7, wherein said rotor pinion is operatively connected to a first gear of said geartrain.

9. The timing motor and geartrain of claim 1, further including stator poles, rotor poles, and a magnet providing a magnetic field flowing around and through said stator poles and said rotor poles.

10. The timing motor and geartrain of claim 9, wherein said magnet further includes a magnet wire associated with said stator.

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